ADDITIONAL NOTES ON THE GENUS CARYOPTERIS (VERBENACEAE). II

Harold N. Moldenke

CARYOPTERIS Bunge

Additional & amended bibliography: Planch., Fl. Serres, ser. 1, 9: 17. 1853; Van Houtte, Fl. Serres, ser. 1, 9: 18. 1853; Bretschn., Hist. Europ. Bot. Disc. China 338. 1898; Prain, Ind. Kew. Suppl. 3: 120. 1908; Rehd., Man. Cult. Trees Shrubs, ed. 1, imp. 1, 775 & 778. 1927; Anon., Notes Roy. Bot. Gard. Edinb. 17: 12. 1929; Rehd., Man. Cult. Trees Shrubs, ed. 1, imp. 2, 775 & 778 (1934), ed. 1, imp. 3, 775 & 778 (1935), ed. 2, imp. 1, 802, 806, & 933 (1940), and ed. 2, imp. 2, 802, 806, & 933. 1951; Prain, Bengal Pl., imp. 2, 2: 614 & 624. 1963; Rehd., Man. Cult. Trees Shrubs, ed. 2, imp. 11, 802, 806, & 933 (1967) and ed. 2, imp. 12, 802, 806, & 933. 1974; Bartholomew & al., Journ. Arnold Arb. 64: 82. 1983; Mold., Phytologia 52: 482--490. 1983.

CARYOPTERIS CHOSENENSIS Mold.

Additional bibliography: Rehd., Man. Cult. Trees Shrubs, ed. 1, imp. 1, 778 (1927), ed. 1, imp. 2, 778 (1934), and ed. 1, imp. 3, 778. 1935; Mold., Phytologia 52: 452--455. 1983.

CARYOPTERIS xCLANDONENSIS Simmonds

Additional bibliography: Rehd., Man. Cult. Trees Shrubs, ed. 2, imp. 1, 806 & 933 (1940), ed. 2, imp. 2, 806 & 933 (1951), ed. 2, imp. 11, 806 & 933 (1967), and ed. 2, imp. 12, 806 & 933. 1974; Mold., Phytologia 52: 455--463, 483, & 486. 1983.

CARYOPTERIS GLUTINOSA Rehd.

Additional bibliography: Rehd., Man. Cult. Trees Shrubs, ed. 2, imp. 1, 806 & 933 (1940), ed. 2, imp. 2, 806 & 933 (1951), ed. 2, imp. 11, 806 & 933 (1967), and ed. 2, imp. 12, 806 & 933. 1974; Mold., Phytologia 52: 469--471 & 490. 1983.

CARYOPTERIS INCANA (Thunb.) Miq.

Additional bibliography: Rehd., Man. Cult. Trees Shrubs, ed. 1, i,p. 1, 778 (1927), ed. 1, imp. 2, 778 (1934), and ed. 1, imp. 3, 778. 1935; Mold., Phytologia 52: 453--455, 458--460, 462, & 469--490. 1983.

Additional citations: CHINA: Szechuan: Chang 3455 (Du--332816); Fang 1502 (N); H. Smith 2260 (S), 4519 (S), 4806 (Ld--photo, N, N--photo, S, Si--photo). Province undetermined: Collector undetermined 224 (Ut--72738b); Fortune 1866 (S); Hu 1375 (Ca--246898). CHINESE COASTAL ISLANDS: Honam: E. D. Merrill 9862 (Ca--291661, Gg--31998). KOREA: Ueki s.n. (S). JAPAN: Kyushu: K. Tamura s.n. [16 Oct. 1945] (W--2071030); Maximowicz s.n. [1863] (Pd); Ohashi, Ohba, & Tateishi 137 (Ac); Oldham 627 (Br, M, Mu--481, Mu--1680, Pd, S), s.n. [1862] (T); Weiss 672 (Bz--18708). Koshiki: Ohwi s.n. [Oct. 1928] (Ba). Tsushima: Herb. Mus. Bot. Stockh. s.n. [12/9/12]

(S); H. Koyama 3069 [Fl. Jap. Exsicc. 58] (Mu, N, Ws). Island undetermined: Burges s.n. [Japonia] (M, N--photo); Herb. Ames s.n. [15 Sept.] (Oa); Herb. Lugd.-Bat. s.n. [Japonia] (S); H. L. Jones s.n. [Japan, Sept. 15] (Ob--14853); Siebold s.n. (Mu--480). MACAO: Hance 360 (Bz--18709). TAIWAN: Chuang & Kao 4697 (Ac); A. Henry s.n. (N); Matuda T.11 [Herb. Nat. Taiwan Univ. 21038] (W--photo); Simada 276 (Ca); E. H. Wilson 11147 (W--1092624). HONG KONG: Bodinier 487 (W--2497117); Ford s.n. [18.8.93] (W--456052); Fortune 34 (Mu--478), 136 (Mu--479); Hance 360 (Pd, Ut--72739b). HONG KONG OFFSHORE ISLANDS: Lamma: Hu 6847 (W--2711976). CULTIVATED: Belgium: Herb. Hort. Brux. s.n. [25 Sept. 1899] (Br). California: Abrams 10115 in part (Du--139740); Eastwood s.n. [Pasadena, Aug. 26, 1915] (Gg--32002); Hardham s.n. [August 20] (Ba); Jerabek s.n. [April 1945] (Sd--36135); McClintock s.n. [Los Angeles, October 1, 1945] (N); H. A. Walker 3184 (Es); Walther 460 (N). Denmark: Lange s.n. [Bot. Gard. Copenh., Oct. 1, 1919] (Ba). District of Columbia: O'Neill s.n. [Oct. 3, 1931] (I), s.n. [September 27, 1933] (I). England: Mackaness 57 (Ba); Moldenke & Moldenke 9265 (N), 9267 (N); Mulligan s.n. [October 1, 1936] (N); Stearn s.n. [Cambridge Bot. Gard., 29.IX.1932] (Ba, Ba), s.n. [27 September 1936] (N). France: Herb. Delessert s.n. [h. b., 28 Fbr. 1898] (N). Georgia: Berckmans s.n. [Sep. 18, 1917] (Ba). Germany: Bornmüller s.n. [1936/11/8] (B); Herb. Hort. Reg. Monac. s.n. [Hort. Bot. Monac. IX.14] (Mu--4220), s.n. (Mu); Rehder s.n. [Bot. Gart. Götting., Oct. 22, 1893] (Ur). Illinois: E. E. Green s.n. [Oct. 4, 1935] (Ba); C. Z. Nelson s.n. [July 18, 1921] (Ws). Indiana: E. Walker s.n. [Sept. 18, 1895] (It). Italy: Vignolo-Lutati s.n. [Torino, VII.1934] (N). Japan: Tanaka 288 (Ca--255169). Java: Herb. Hort. Bot. Bogor. 18712 (Bz), 18713 (Bz), 18714 (Bz). Kansas: F. C. Gates 20504 (Ka--89396). Massachusetts: L. H. Bailey s.n. [Sept. 26-27, 1896] (It); Kidder s.n. [14 Sept. '92] (Ca--10753); C. H. Thompson s.n. [October 17, 1928] (Ms--49802); Torrey & Cross s.n. [Amherst, Oct. 3, 1936] (Ms). Missouri: D. B. Dunn 12716 (Ld--39911). New York: "M. B." 23-44 (Ba); Hartling s.n. [Sept. 18, 1917] (Ur); Herb. Bailey s.n. [Sept. 26, 1911] (Ba); Horsey s.n. [Highland Park, Sept. 21, 1917] (Ba); Nash s.n. [22.S.1898] (N); H. K. Schneider s.n. [N. Y. Bot. Gard. Cult. Pl. R.94/35] (Ba, N); L. E. Smith s.n. [Buffalo, 1909] (N); N. Taylor s.n. [N. Y. Bot. Gard. Cult. Pl. 15819; 9-19-04] (N), s.n. [N. Y. Bot. Gard. Cult. Pl. 15819; 11-5-06] (N); Wacker 270 (It); Worthley s.n. [N. Y. Bot. Gard. Cult. Pl. 17514] (N). New Zealand: Sykes 282/65 (Nz--156299). North Carolina: Biltmore Herb. 5691 (Dt). Oklahoma: Pullin 336 (St--9179). Oregon: Gundersen s.n. [October 10, 1941] (Or--50763); J. C. Nelson 4691 (Ba); B. Pierce s.n. [Sept. 4, 1944] (Or--49222). Pennsylvania: Peale 336 (Ba); E. A. White s.n. [10-12-97] (It). Sweden: Herb. Hort. Thenensis II.910 (Br); Herb. Mus. Bot. Stockh. s.n. (S). Washington: Manser s.n. [October 1939] (Or--37999). MOUNTED ILLUSTRATIONS: L.

H. Bailey, Cycl. Am. Hort. 255, fig. 379 [Stand. Cycl. Hort. 679, fig. 382. 1914] (Ba--381084); Blanchard, Rév. Hort. 64: 324/325. 1892 (Ld); Hook. f., Curtis Bot. Mag. 111: pl. 6799. 1885 (Ld); Hsiao, Fl. Taiwan pl. 1057. 1978 (Ld); Iinuma, Somokou Zousatsu, ed. 1, 11:pl. 11. 1875 (Ld); Lindl., Edwards Bot. Reg. 32 [ser. 2, 19]: pl. 2. 1846 (Ba); Makino, Illust. Fl. Nipp. 185, fig. 554. 1940 (Ld, Ld); Spooner, Gard. Chron., ser. 3, 42: 409. 1907 (Ld); Turrill, Curtis Bot. Mag. 166: pl. 75. 1975 (Ld).

CARYOPTERIS INCANA f. CANDIDA (Schelle) Hara, Enum. Sperm. Jap. 1: 187. 1948.

Synonymy: Barbula sinensis Lour., Fl. Cochinch., ed. 1, 2: 367. 1790. Mastacanthus barbula Steud., Nom. Bot. Phan., ed. 2, 2: 105. 1841. Mastacanthus sinensis (Lour.) Endl. in Walp., Repert. Bot. Syst. 4: [3]. 1845. Mastacanthus sinensis Endl. apud Sieb. & Zucc., Abhandl. Akad. Wiss. Muench. Math.-Phys. 4 (3): 156, in syn. 1846. Caryopteris sinensis (Lour.) Dipp., Handb. Laubholzk. 1: 59. 1889. Caryopteris mastac. candida Hort. ex Schelle in Beissner, Schelle, & Zabel, Handb. Laubholz-Benen. 426, nom nud. 1903. Caryopteris incana var. candida (Schelle) Schneid., Illust. Handb. Laubholkz. 2: 596. 1911. Caryopteris incana candida [L. H. Bailey] ex Olmsted, Coville, & Kelsey, Stand. Pl. Names, ed. 1, 70. 1924. Caryopteris mastacanthus var. candida C. Schneid. ex Schelle, Pareys Blumengartn., ed. 1, 283, in syn. 1932. Caryopteris incana var. candida Schneid. ex Schelle, Pareys Blumengartn., ed. 1, 2: 283. 1932. Caryopteris incana candida Trelease, Pl. Mat. Decorat. Gard. Woody Pl., ed. 5, imp. 1, 145. 1940. Caryopteris incana var. candida [Hort.] ex L. H. & E. Z. Bailey, Hortus Sec. 145. 1941. Caryopteris mastacanthus f. candida Hort. ex Hara, Enum. Sperm. Jap., imp. 1, 1: 187, in syn. 1948. Caryopteris mastacanthus var. candicans Schelle ex Bean, Trees Shrubs Hardy Brit. Isls., ed. 7, 1: 366. 1950. Caryopteris mastacanthus var. alba Bean, Trees Shrubs Hardy Brit. Isls., ed. 7, 1: 366, in syn. 1950. Caryopteris mastacanthus alba Hort. ex Mold., Résumé 249, in syn. 1959. Caryopteris sinensis Dipp. ex Mold., Résumé 250, in syn. 1959. Caryopteris incana f. candicans (Schneid.) Hara ex Bean, Trees Shrubs Hardy Brit. Isls., ed. 8, 1: 519. 1970.

Bibliography: Lour., Fl. Cochinch., ed. 1, 2: 366--367 (1790) and ed. 2, 2: 444. 1793; Endl., Gen. Pl. 638. 1838; Steud., Nom. Bot. Phan., ed. 2, 2: 105. 1841; D. Dietr., Syn. Pl. 3: 619. 1843; Walp., Repert. Bot. Syst. 4: [3]. 1845; Lindl., Edwards Bot. Reg. 32 [ser. 2, 19]: pl. 2. 1846; Sieb. & Zucc., Abhandl. Akad. Wiss. Muench. Math.-Phys. 4 (3) [Fl. Jap. Fam. Nat. 2]: 156. 1846; Bocq., Adansonia, ser. 1, 2: 110. 1862; Bocq., Rév. Verbenac. 110, 1863; Pfeiffer, Nom. Bot. 1 (1): 614. 1873; Benth. in Benth. & Hook. f., Gen. Pl. 2 (2): 1157. 1876; Hook. f., Curtis Bot. Mag. 111 [ser. 3, 41]: pl. 6799. 1885; Maxim., Bull. Acad. Imp. Sci. St.-Pétersb. 31: 87. 1886; Durand, Ind. Gen. Phan. 322. 1888; Dippel, Handb. Laubholzk. 1: 59. 1889; André, Rév. Hort. 64: 324. 1892; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 272 &

447. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 178. 1895; Schelle in Beissner, Schelle, & Zabel, Handb. Laubholz.-Benen. 426. 1903; Tillier, Rév. Hort. 75: 16. 1903; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 433. 1904; C. K. Schneid., Illust. Handb. Laubholzk. 2: 596. 1911; Olmsted, Coville, & Kelsey, Stand. Pl. Names, ed. 1, 70. 1924; L. H. Bailey, Man. Cult. Pl., ed. 1, imp. 1, 634 (1924) and ed. 1, imp. 2, 634. 1925; L. H. & E. Z. Bailey, Hortus, ed. 1, 124. 1930; P'ei, Mem. Sci. Soc. China 1 (3): [Verbenac. China] 169. 1932; Schelle, Pareys Blumengärt., ed. 1, 283. 1932; L. H. Bailey, Florists Handl. Verbenac. [mss.]. 1935; L. H. & E. Z. Bailey, Hortus, ed. 2, 124. 1935; Bobbink & Atkins, Roses Ornament. Trees Shrubs 52. 1935; Dreer, Gard. Book [97]: 21, 117, & 131 (1935) and [98]: 5, 21, & 121. 1936; L. H. Bailey, Man. Cult. Pl., ed. 1, imp. 3, 634. 1938; H. W. Harv., Ga. Univ. Agric. Ext. Serv. Bull. 402, ed. 2, 34. 1938; Sakata, Reliable Seeds Nursery 1939: 28. 1939; W. Trelease, Pl. Mat. Decorat. Gard. Woody Pl., ed. 5, imp. 1, 145. 1940; L. H. Bailey, Man. Cult. Pl., ed. 1, imp. 4, 634. 1941; L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 145. 1941; Mold., Suppl. List Inv. Names [1]. 1941; Sakata, Reliable Seeds Nursery 1941: 54. 1941; Kelsey & Dayton, Stand. Pl. Names, ed. 2, 93. 1942; Mold., Alph. List Inv. Names 6. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 71 & 87. 1942; L. H. Bailey, Man. Cult. Pl., ed. 1, imp. 5, 634. 1944; E. L. D. Seymour, New Gard. Encycl., ed. 3, 154. 1944; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 272 & 447. 1946; Mold., Alph. List Inv. Names Suppl. 1: 2. 1947; Hara, Enum. Sperm. Jap., imp. 1, 1: 186--187. 1948; L. H. Bailey, Man. Cult. Pl., ed. 2, 846 & 1047. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 131, 157, & 178. 1949; Rehd., Bibliog. Cult. Trees 585--586. 1949; Angely, Cat. Estat. Gen. Bot. Fan. 17: 3. 1956; Mold., Résumé 168, 172, 214, 237, 249, 250, & 445. 1959; Bonsted in Encke, Pareys Blumengärt., ed. 2, 2: 449. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 272 & 447. 1960; Mold., Résumé Suppl. 3: 19 & 27. 1962; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 433. 1963; J. & L. Bush-Brown, Am. Gard. Book, ed. 4, 252 & 269. 1965; Ohwi, Fl. Jap. 766. 1965; E. Lawrence, South. Gard., ed. 2, 183. 1967; Pal & Krishnamurthi, Flow. Shrubs 22 & 132. 1967; W. Trelease, Pl. Mat. Decorat. Gard. Woody Pl., ed. 5, imp. 2, 145. 1968; Bean, Trees Shrubs Hardy Brit. Isls., ed. 8, 1: 519. 1970; Mold., Fifth Summ. 1: 287, 292, 309, 356, 395, 422, & 423 (1971) and 2: 856. 1971; R. Bailey, Good Housekeep. Illustr. Encycl. Gard. 4: 502. 1972; Hara, Enum. Sperm. Jap., imp. 2, 1: 186--187. 1972; L. H. & E. Z. Bailey, Hortus Sec., imp. 18, 145. 1974; Mold., Phytologia 31: 390 (1975) and 34: 272. 1976; Mold., Phytol. Mem. 2: 277, 281--283, 300, 346, 379, & 529. 1980; Mold., Phytologia 52: 429, 434, & 490. 1983.

Illustrations: Bobbink & Atkins, Roses Ornament. Trees Shrubs 52 [center] (in color). 1935; Dreer, Gard. Book [97]: 117 (in color). 1935.

Haec forma a forma typica speciei corollis albis recedit. This form differs from the typical form of the species in having white corollas. It is not merely a cultivar, as some authors claim, be-

cause it grows wild and native in China and elsewhere, occurring sporadically there along with the ordinary form. As grown in gardens, according to Bean (1970), "It is perhaps less hardy than the type".

Loureiro's Barbula sinensis (1790) apparently was this form, since he describes its corollas as white. His original description is: "Floribus verticillatis: foliis oblongis, serratis. Hab. Frutex lignosus, 1-pedalis: ramis ascendentibus, paucis. Folia ovato-oblonga, obtusa, serrata, basi integerrima, linearta, tomentosa, opposita: petiolis brevibus. Flor albus axillaris, verticillis fastigiatis. Planta grati odoris. Habitat Cantone Sinarum inculta." The type is deposited in Paris.

Ohwi (1965) refers to this color form as "A white-flowered phase", listing for it the Japanese vernacular name, "shirobana-dangiku". Bailey (1935) listed only Sanford as a seedsman or nurseryman offering this form to the horticultural trade. Kelsey & Dayton (1942) call it the "white bluebeard" as a standardized English common name.

Collectors describe the plant as an ill-smelling, low or erect shrub or subshrub, 0.2--1.5 m. tall, the flowers ill-smelling, one "petal" of the corolla "larger than the rest, fringed at the margin", the stamens [filaments] purple, the anthers blue but eventually turning black, and the fruit globose, "with 4 tufts of hair". They have encountered it in the wild in open ravines and open areas in general, as well as on sea-facing hills. It is said to be "fairly common" on dry sandy slopes on Lantao island according to Taam.

Although a white-flowered form of the species is mentioned by many authors, it is usually without a subspecific designation. The original publication of Barbula sinensis Lour. is often cited as first published by Loureiro in his Flora Cochinchinensis, edition 2 (1793), but it was actually published three years earlier in the first (1790) edition of the work.

P'ei (1932) cites, as white-flowered, Tak & Chow 2316 and Tsiang 1068 & 3257 from Kwangtung, China; the "stamens" are said to have been purple on Tsiang 1068.

Citations: CHINA: Kwangtung: Tak & Chow 2316 [Herb. Canton Chr. Coll. 14177] (Ca--318895); Tsiang 1068 (Du--250189), 3257 (N); Ying 1068 (Ca--358911). Province undetermined: A. Henry s.n. [Oct. 25] (N). CHINESE COASTAL ISLANDS: Lantau: Taam 1782 (Ca--82771, Mi, N, W--2072638). HONG KONG OFFSHORE ISLANDS: Port: Hu 12249 (W--2731212). CULTIVATED: Illinois: E. E. Green s.n. [Oct. 4, 1935] (Ba). New Jersey: C. H. M. Lawrence P.455 (Ba). New York: Nash s.n. [9.S.1898] (N). West Virginia: Davis & Davis 7200 (We).

CARYOPTERIS INCANA f. MACROPHYLLA Mold., Phytologia 23: 453. 1972.

Bibliography: Mold., Phytologia 23: 453. 1972; Anon., Biol. Abstr. 56 (3): 8.A.S.I.C. S.39. 1973; Mold., Biol. Abstr. 56: 1243. 1973; Hocking, Excerpt. Bot. A.23: 291. 1974; Mold., Phytol.

Mem. 2: 300 & 529. 1980; Brenan, Ind. Kew. Suppl. 16: 58. 1981; Mold., Phytologia 52: 435. 1983.

This form differs from the typical form of the species in having the main leaves on flowering branches with their petioles 2.5--3 cm. long and their leaf-blades 8.5--9 cm. long and 4.5--5 cm. wide.

This form is based on a specimen gathered by an unknown collector somewhere in Japan on September 20, 1910, and is sheet number 1178283 in the United States National Herbarium in Washington.

Citations: JAPAN: Island undetermined: Collector undetermined s.n. [20 Sept. 1910] (W--1178283--type).

CARYOPTERIS INCANA f. NANA (Borsch) Mold., stat. nov.

Synonymy: Caryopteris mastacanthus nanus Borsch, Hardy. Alp. Pl. 8. 1927. Caryopteris incana var. nana [Cat. Wm. Borsch] ex L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 145. 1941. Caryopteris incana var. nana Borsch ex Mold., Fifth Summ. 1: 422, in syn. 1971. Caryopteris mastacanthus nanus Dreer ex Mold., Fifth Summ. 1: 423, in syn. 1971.

Bibliography: Borsch, Hardy Herb. Alp. Pl. 8. 1927; L. H. Bailey, List Florists Handl. Verbenac. [mss.]. 1935; L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 145. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 157 & 178. 1949; Rehd., Bibliog. Cult. Trees 586. 1949; Mold., Résumé 214, 249, & 445. 1959; Mold., Fifth Summ. 1: 354 & 422 (1971) and 2: 856. 1971; L. H. & E. Z. Bailey, Hortus Sec., imp. 18, 145. 1974; Mold., Phytol. Mem. 2: 277, 281, 304, 346, & 529. 1980; Mold., Phytologia 52: 435, 469, & 490. 1983.

Haec forma a forma typica speciei statura nana ramis decumbentibus vel usque ad 30--60 cm. adscendentibus vel prostratis recedit.

This form differs from the typical form of the species in its generally lower stature, the branches decumbent to prostrate or ascending 30--60 cm.

As yet I have been unable to trace this taxon nomenclaturally or bibliographically back farther than 1927, when William Borsch & sons described it in one of their catalogues as "(Blue Spirea) - Grows almost 3 ft. high and produces lovely lavender-blue flowers the whole length of its branches. A valuable plant for either pot culture or bedding, blooming continuously from September until cut down by frost", offering plants at 50 cents and 75 cents [U.S.A.] each.

On writing to the Borsch firm in Maplewood, Oregon, a letter of reply was received by me from Fred J. Borsch, dated November 14, 1947, in which he states that "To the best of my knowledge it was between 1926 and 1930 that we obtained stock of this plant from Henry Dreer of Philadelphia. We have not been listing it under that name ['Caryopteris mastacanthus nanus'] for the past twelve years. The Borsch nursery was sold to Saxton & Wilson in 1944."

The form apparently is a natural one, not merely a cultivar as some authors now seem to regard it, and the type should probably be the Chiao 18868 collection from Chekiang, China, cited below and

deposited in the United States National Herbarium in Washington. The form occurs on slopes and windswept cliffs in parts of China, Taiwan, and Honam island, described by some collectors as a dwarf form of the species, the stems decumbent or ascending, 1--2 feet tall. It has been found in anthesis and fruit in October and November. The corollas are described as "lobes lavender RHS Fan 2 Violet-Blue 91/A" on Peterson J.1358.

A similar habital form, with prostrate, spreading branches, is represented by C. forrestii Diels and some forms of C. mongholica Bunge.

Material of C. incana f. nana has been distributed in some herbaria as typical C. incana (Thunb.) Miq. and even as Abelia ionandra Hayata.

Citations: CHINA: Chekiang: Chiao 18868 [Herb. Univ. Nanking 18868] (N--isotype, W--1554162--type, Ws--isotype). Kiangsi: Lau 4785 (S, W--1753404). Kwangtung: Levine, Canton Chr. Coll. 1679 (Ka--63326, W--1173108), 3472 (W--1270984). TAIWAN: Suzuki 21426 (W--2063459); E. H. Wilson 11118 (W--1092620). CULTIVATED: Japan: Isle s.n. [Sept. 26, 1937] (Ka--89780). Pennsylvania: J. W. Peterson J.1358 (Ba).

CARYOPTERIS INCANA f. SUPERBA (Dreer) Mold., stat. nov.

Synonymy: Caryopteris mastacanthus superbus Dreer, Gard. Book [97]: 21, 117, & 131. 1935. Caryopteris incana var. superba (Dreer) Bobbink & Atkins, Roses Ornament. Trees Shrubs 52. 1935. Caryopteris incana superba Bobbink & Atkins ex L. H. Bailey, List Florists Handl. Verbenac. [mss.]. 1935. Caryopteris incana var. superba L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 145. 1941. Caryopteris incana var. superba Hort. ex Mold., Known Geogr. Distrib. Verbenac., ed. 1, 71 & 82. 1942. Caryopteris incana var. superba "[Hort.] ex Bailey" apud Rehd., Bibliog. Cult. Trees 586. 1949.

Bibliography: L. H. Bailey, List Florists Handl. Verbenac. [mss.]. 1935; Bobbink & Atkins, Roses Ornament. Trees Shrubs 52. 1935; Dreer, Gard. Book [97]: 21, 117, & 131 (1935) and [98]: 5, 21, & 121. 1936; Sakata, Reliable Seeds Nursery 1939: 28. 1939; Totty's Catalogue 1939: 35. 1939; L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 145. 1941; Sakata, Reliable Seeds Nursery 1941: 94. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 71 & 87 (1942) and ed. 2, 157 & 178. 1949; Rehd., Bibliog. Cult. Trees 586. 1949; Mold., Journ. Calif. Hort. Soc. 15: 87. 1954; Mold., Résumé 214, 249, & 445. 1959; Sharma & Mukhopadhyay, Journ. Genet. 58: 359. 1963; Bose, Handb. Shrubs 36: 122. 1965; J. & L. Bush-Brown, Am. Gard. Book, ed. 4, 378. 1965; E. Lawrence, South Gard., ed. 2, 183. 1967; Pal & Krishnamurthi, Flow. Shrubs 132. 1967; Mold., Fifth Summ. 1: 356, 422, & 423 (1971) and 2: 856. 1971; L. H. & E. Z. Bailey, Hortus Sec., imp. 18, 145. 1974; Mold., Phytol. Mem. 2: 346 & 529. 1980; Mold., Phytologia 52: 435. 1983.

Illustrations: Bobbink & Atkins, Roses Ornament. Trees Shrubs 52 [left] (in color). 1935; Dreer, Gard. Book [97]: 117 (in color) (1935) and [98]: 5 & 121. 1936.

Haec forma a forma typica speciei corollis rubellis recedit. This form differs from the typical form of the species in having pink corollas.

Dreer (1935) describes this plant as "A handsome and free-flowering woody perennial plant of unusual appeal. Well branched, growing 2 to 3 feet high with long stems covered with showy whorls of attractive clear-colored flowers during September and October. Well adapted to cutting." He describes three color forms: blue, pink, and white. The first of these actually is the true C. incana (Thunb.) Miq.; the third is what we now call C. incana f. candida (Schelle) Hara., while the pink form is the form to which I am restricting the form name, superba.

Totty (1939) also describes this plant in a similar fashion, adding that it is "valuable on account of its late flowering habit". The pink-flowered form is also listed, without a special name, by Sakata (1939, 1941), Bose (1965), Lawrence (1967), Sharma & Mukhopadhyay (1967), and Pal & Krishnamurthi (1967). Bailey (1935) listed it as offered to the horticultural trade only by Dreer in Philadelphia, Pennsylvania, Schling in New York City, and Bobbink & Atkins in East Rutherford, New Jersey.

Considerable effort has been expended by me to ascertain the original dates of publication of the names involved in the nomenclature of this taxon. On the recommendation of the late Dr. Liberty Hyde Bailey, letters of inquiry were sent on August 18, 1947, to Bobbink & Atkins, W. Atlee Burpee (Philadelphia), James C. Clark (Riverton, New Jersey), Henry A. Dreer, Gulf Stream Nursery per Jacques Le Gendre (Wachapreague, Virginia), Max Schling, and Totty's (Madison, New Jersey), and on September 11, 15, & 26 to Max Schling Junior, Harry C. Sim (Riverton, New Jersey), and P. J. Van Melle (Poughkeepsie, New York). These missives elicited some interesting replies.

From Bobbink & Atkins [per F. Hendrickx, letter of September 2, 1947]: "We are under the impression that the Caryopteris incana, var. superba, was originally introduced here by the Holland Nurseries. We have, in the meantime, written to Holland and are anxious to see what information we will get from them regarding this plant. As soon as we do get a reply we will be glad to communicate with you further." No further communication was received by me.

From Burpee came the report [per Almeda P. Holgate, letter of September 30, 1947] that "We have checked in all of our old catalogues and do not find this listed in any of them. [However,] I do know that Wayside Gardens, Mentor, Ohio has listed Caryopteris for some time."

From Dreer came the response [per Alfred Putz, letter of August 20, 1947]: "Much to our regret we have no record as to the original source of the seed -- such as we believe were the starting point -- and a careful search through our records did not turn up anything that may lead us to any conclusion. The writer remembers seeing it at our Riverton Nursery and in fact he took the two photographs which are enclosed. We started with a blue variety abd later added the pink and white which appeared as mutations in the sowing

we originally made.

"A search through some records we inherited from the nurseries when they were closed down, does not disclose any source of supply from other nurseries and that strengthens our belief that we had our start from seed but where it came from we do not know. In reference to the photographs showing the branches displayed in the pots this means was used merely to give us an opportunity to arrange them with greater ease than would have been possible if they had been shown in a vase." I was referred to James C. Clark who was in charge of the nurseries at the time that the plant was introduced. Unfortunately, no reply was elicited from Mr. Clark.

From the Gulf Stream Nursery [per J. L. Legendre, letter dated September 17, 1947] came this statement: "As far as I can remember you refer to an offer made in a Dreer Catalogue of the three Caryopteris, Blue, White and Pink. Seeds of these three colors had been received from Japan and plants were raised at the nursery at Riverton, N. J. I do not remember if these three Caryopteris were listed as just mastacanthus or as mastacanthus superbus. One thing I feel rather certain that this name was first applied by Dreer and as far as I know the plant offered was identical to the variety I have always known as mastacanthus outside of the fact that no plants of the White and Pink forms had ever been offered in this country as far as I know."

From Schling [per Max Schling, Jr., letter dated September 10, 1947] came the assertion that his father "more than likely" secured Caryopteris from Bobbink & Atkins and offered it in "a catalog evidently published at the time of the first world war or shortly before by J. Horace McFarland Company in Harrisburg, Pa." In a further letter, dated September 18, 1947, he states that "Although I have searched through our catalogs, I find no trace of Caryopteris Mastacanthus superbus and I have no way of knowing whether such a variety actually existed or whether it was listed by my father in error. The information you have that it may have come from Holland leads me to believe that perhaps 'superbus' was tacked on to the name for advertising reasons only."

From Harry C. Sim [letter of September 22, 1947]: "From memory I think that Dreer found seed offered in three colors, blue, pink and white, in a Japanese catalogue (probably Sakata's) in the late twenties or early thirties. Whether the word 'Superbus' was added by Dreer after testing it out or for merchandising purposes I cannot now say....Like many other Japanese introductions you will find this variety varies very much from what we know as Caryopteris Mastacanthus or Incana as offered by growers in the United States. It is not as shrubby or hardy as the type as we know it, being more rampant in growth and should be treated more as an annual for best garden results. In the few years I had occasion to grow this variety I found that seed sown in early spring indoors produced very free flowering plants (true to color) in early fall. Taken all in all it was one of the outstanding flowers."

From Totty's [per A. L. Moran, letters dated September 25 & 29, 1947]: "We have been trying to locate where the Caryopteris Masta-

canthus superbus came from and we have finally decided it was a variety we brought in from Dreer's of Riverton, N. J.....The description of the Caryopteris mastacanthus superbus appeared in Totty's catalogue of 1939."

Citations: CULTIVATED: California: Walther s.n. [San Rafael, Oct. 17, 1922] (Gg--31999). New Jersey: Putz C.1 (N--photo), C.3 (N--photo).

CARYOPTERIS INCANA var. SZECHUANENSIS Mold., Phytologia 23: 453. 1972.

Bibliography: Mold., Phytologia 23: 453. 1972; Anon., Biol. Abstr. 56 (3): B.A.S.I.C. S.39. 1973; Mold., Bio. Abstr. 56: 1243. 1973; Hocking, Excerpt. Bot. A.23: 291. 1974; Mold., Phytol. Mem. 2: 277 & 529. 1980; Brenan, Ind. Kew. Suppl. 16: 58. 1981; Mold., Phytologia 52: 434 & 490. 1983.

This variety differs from the typical form of the species in having its branches uniformly foliose, the internodes about 2 cm. long, the petioles uniformly about 4 mm. long, and the leaf-blades remarkably uniform, lanceolate-ovate, 2.5--3 cm. long, 1--1.5 cm. wide, regularly incised-dentate along practically all the margins, the incisions antrorse, 2--3 mm. long, obliquely broad-based, apically bluntly subacute, revolute-margined, and the very abundant and fine vein- and veinlet-reticulation conspicuously and beautifully impressed on the upper surface.

The variety is based on Ernest Henry Wilson 2221 from somewhere in western Szechuan, China, collected in August, 1908, and deposited in the United States National Herbarium in Washington. Thus far it is known to me only from the original collection.

Citations: CHINA: Szechuan: E. H. Wilson 2221 (Ld--isotype, W--777404--type).

CARYOPTERIS MONGHOLICA Bunge, Uchen. Zapisk. Kazan. Univ. 4: 179 [Pl. Monghol.-chin. Dec. 1: 27--28]. 1835.

Synonymy: Caryopteris mongolica Bunge ex Jacques, Ann. Fl. Pom. [Journ. Jard.], ser. 2, 1: 319. 1843. Cariopteris mongolica Bunge ex Franch., Nouv. Arch. Mus. Paris, ser. 2, 6: 111. 1883. Caryopteris mongolica Maxim. ex Diels, Notes Roy. Bot. Gard. Edinb. 5: 296. 1912.

Bibliography: Bunge, Uchen. Zapisk. Kazan. Univ. 4: 179. 1835; Bunge, Nov. Gen. Sp. Chin. Mongh. [Pl. Monghol.-chin. Dec.] 1: 27--28. 1835; Bunge, Ann. Sci. Nat. Paris, ser. 2, Bot. 6: 64. 1836; Endl., Gen. Pl. 634. 1838; Meisn., Pl. Vasc. Gen. 2: [Comm.] 198. 1840; Steud., Nom. Bot. Phan., ed. 2, 1: 302. 1840; D. Dietr., Syn. Pl. 3: 606. 1843; Jacques, Ann. Fl. Pom. [Journ. Jard.], ser. 2, 1: 319. 1843; Jacq., Ann. Fl. Pom. [Journ. Jard.], ser. 2, 3: 336--338, pl. 41. 1845; Walp., Repert. Bot. Syst. 4: [3]. 1845; Gerard, Hortic. Univ. 7: 40. 1846; Schau. in A. DC., Prodr. 11: 625. 1847; Buek, Gen. Spec. Syn. Candoll. 3: 86. 1858; Bocq. in Baill., Adansonia, ser. 1, 2: [Rév. Verbenac.] 111 & 112, pl. 19, fig. 1--9. 1862; Bocq. in Baill., Rec. Obs. Bot. 3: 207 & 208. 1863; Carr., Rév. Hort. 44: [450] & 451. 1872; Maxim., Bull. Acad. Imp. Sci.

St.-Pétersb. 23: 389. 1877; Maxim., Mél. Biol. Acad. Sci. St.-Pétersb. 9: 830. 1877; Maxim., Bull. Soc. Nat. Mosc. 54: 41. 1879; Franch., Nouv. Arch. Mus. Hist. Nat. Paris, ser. 2, 6: 111. 1883; Franch., Pl. David., imp. 1, 1: 231. 1884; Nicholson, Illust. Dict. Gard. 1: 274. 1884; Maxim., Mél. Biol. Acad. Sci. St.-Pétersb. 12: 523--524. 1886; Maxim., Bull. Acad. Imp. Sci. St.-Péters. 31: 87--88. 1886; Forbes & Hemsl., Journ. Linn. Soc. Lond. Bot. 26 [Ind. Fl. Sin. 2]: 264. 1890; Jacks. in Hook. f. & Jacks., Ind. Kew., inp. 1, 1: 447. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 176 & 178, fig. 66 E--G. 1895; Bretschn., Hist. Europ. Bot. Discov. China 338. 1898; C. K. Schneid., Illust. Handb. Laubholzk. 2: 587, 596, & 597, fig. 386 q & r. 1911; Diels, Notes Roy. Bot. Gard. Edinb. 5: 296. 1912; Chung, Mem. Sci. Soc. China 1 (1): 228. 1924; Rehd., Man. Cult. Trees Shrubs, ed. 1, imp. 1, 778. 1927; L. H. & E. Z. Bailey, Hortus, imp. 1, 124. 1930; Kammerer, Bull. Pop. Inform. Morton Arbor. 5: 28 & 50. 1930; Stapf, Curtis Bot. Mag. 154: pl. 9219. 1930; Stapf, Ind. Lond. 2: 82. 1930; P'ei, Mem. Sci. Soc. China 1 (3): [Verbenac. China] 163 & 165--168, pl. 30. 1932; Schelle, Pareys Blumengärtn., ed. 1, 283. 1932; Wilder, Frag. Path, imp. 1, 113 & 385. 1932; Bean, Trees Shrubs Hardy Brit. Isls. 3, ed. 1, 75. 1933; Chittenden, Gard. Chron., ser. 3, 94: 226. 1933; Chittenden, Journ. Roy. Hort. Soc. 59: 301. 1934; Junell, Symb. Bot. Upsal. 1 (4): 115. 1934; Rehd., Man. Cult. Trees Shrubs, ed. 1, imp. 2, 778 (1934) and ed. 1, imp. 3, 778. 1935; L. H. Bailey, List Florists Handl. Verbenac. [mss.]. 1935; L. H. & E. Z. Bailey, Hortus, imp. 2, 124. 1935; Bean, Trees Shrubs Hardy Brit. Isls. 3, ed. 2, 75. 1936; Hillier, Journ. Roy. Hort. Soc. 66: 107--108. 1936; Makins, Ident. Trees Shrubs, ed. 1, 62 & 258, fig. 50F. 1936; Wilder, Frag. Path, imp. 2, 113 & 385. 1936; Mold., Annot. List 108. 1939; Rehd., Man. Cult. Trees, ed. 2, imp. 1, 806 & 933. 1940; L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 145. 1941; Doney, Brooklyn Bot. Gard. Rec. 30: 23. 1941; Mold., Suppl. List Inv. Names 2. 1941; E. H. Walker, Contrib. U. S. Nat. Herb. 28: 655. 1941; Wangerin & Krause, Justs Bot. Jahresber. 60 (1): 753. 1941; Kelsey & Dayton, Stand. Pl. Names, ed. 2, 92 & 93. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 56, 71, & 87. 1942; E. L. D. Seymour, New Gard. Encycl., ed. 3, 154. 1944; Erdtman, Svensk Bot. Tidsk. 39: 283--284. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 447. 1946; Mold., Alph. List Inv. Names Suppl. 1: 4. 1947; Makins, Ident. Trees Shrubs, ed. 2, 62, 289, & 355, fig. 350 F. 1948; L. H. Bailey, Man. Cult. Pl., ed. 2, 846 & 1047. 1949; "R. G.", N. Y. Times August 23 X: 23. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 131, 157, & 178. 1949; Rehd., Bibliog. Cult. Trees 586. 1949; Turrill, Curtis Bot. Mag. 166: pl. 75. 1949; Bean, Trees Shrubs Hardy Brit. Isls., ed. 7, 1: 366--367. 1950; Rehd., Man. Cult. Trees Shrubs, ed. 2, imp. 2, 806 & 933. 1951; Blackburn, Trees Shrubs East. N. Am. 108. 1952; Grubov, Konsp. Fl. M.N.R. 233. 1955; Bean in Chittenden, Roy. Hort. Soc. Gard. Dict. 1: 405. 1956; Boerner in Maatsch, Pareys Illust. Gartenbaulex. 1: 205. 1956; Wyman, Shrubs Vines Am. Gard. 121, 122, & 415. 1956; Chen' & Chzhou, Rast. Pokrov. Sulenkhe 89. 1957; Iljin, Acad. Sci. Bot. Inst. Dept. Repr.

Mat. Hist. Fl. Veg. USSR 3: 152, 215, & 216, fig. 44. 1958; Mattoon, Pl. Buyers Guide, ed. 6, 88. 1958; Mold., Am. Midl. Nat. 59: 335. 1958; Hay, Gard. Chron. 145: 411. 1959; Mold., Résumé 168, 214, 249, 250, & 445. 1959; Mold., Résumé Suppl. 1: 14. 1959; Bonsted in Encke, Pareys Blumengärt., ed. 2, 2: 449. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 447. 1960; Bush-Brown, Shrubs Trees Home Landsc. 79. 1963; Piringer, Downes, & Borthwick, Am. Journ. Bot. 50: 86. 1963; E. B. Anderson in Anderson, Balf., Fish, Wallis, & Finnis, Oxford Book Wild Fls., imp. 1, 171 (1963) and imp. 2, 171. 1964; Hoag, Trees Shrubs North. Plains 206. 1965; Everett, Reader's Digest Compl. Book Gard. 115. 1966; Hellyer, Shrubs Colour 24. 1966; DeWit, Pl. World High. Pl. 2: 185. 1967; Glasau, Sommergr. Ziergeh. 67. 1967; Rehd., Man. Cult. Trees Shrubs, ed. 2, imp. 11, 806 & 933. 1967; E. B. Anderson in Anderson, Balf., Fish, Wallis, & Finnis, Oxford Book Gard. Fls., imp. 3, 171. 1968; McGinnies in McGinnies, Goldman, & Paylore, Deserts World 481. 1968; Mold., Résumé Suppl. 17: 7. 1968; Bean, Trees Shrubs Hardy Brit. Isls., ed. 8, 1: 518 & 519. 1970; Franch., Pl. David., imp. 2, 1: 231. 1970; Grubov, Ivaninz, & Tscherneva, Fl. Asiat. Cent. 5: 7. 1970; Mold., Fifth Summ. 1: 287, 356, 422, & 423 (1971) and 2: 856. 1971; Wyman, Gard. Encycl., imp. 1, 191 (1971) and imp. 2, 171. 1972; E. B. Anderson in Anderson, Balf., Fish, Wallis, & Finnis, Oxford Book Gard. Fls., imp. 4, 171. 1972; Encke & Buchheim in Zander, Handwörterb. Pflanz., ed. 10, 158. 1972; F. Perry, Fls. World 304 & 313. 1972; Skinner, Ornament. Pl. Coast. Northw. 75. 1972; Hegnauer, Chemotax. Pfl. 6 [Chem. 21]: 666. 1973; Leigh & Boden, Convent. Internat. Trade Endang. Sp. 14 & 69. 1973; L. H. & E. Z. Bailey, Hortus Sec., imp. 18, 145. 1974; Gibbs, Chemotax. Flow. Pl. 3: 1753 & 1754. 1974; Rehd., Man. Cult. Trees Shrubs, ed. 2, imp. 12, 806 & 933. 1974; Wilder, Frag. Gard. 113 & 385. 1974; Mold., Phytologia 31: 391 (1975) and 36: 39. 1977; Prance & Elias, Extinct. Forever, imp. 1, 416 (1977) and imp. 2, 416. 1978; Layzell & Horton, Canad. Journ. Bot. 56: 1844--1851. 1978; Layzell & Horton, Biol. Abstr. 67: 1151. 1979; Mold., Phytol. Mem. 2: 277, 346, 379, & 529. 1980; Mold., Phytologia 52: 428--430, 432, 434, 435, 455, 458--460, 468, 470, & 481. 1983.

Illustrations: Jacq., Ann. Fl. Pom. [Journ. Jard.], ser. 2, 3: 336/337, pl. 41 (in color). 1845; Gerard, Hortic. Univ. 7: 40. 1846; Bocq. in Baill., Adansonia, ser. 1, 2: [Rév. Verbenac.] pl. 19, fig. 1--9. 1862; Carr., Rév. Hort. 44: [450] (in color). 1872; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 176, fig. 66 E--G. 1895; C. K. Schneid., Illust. Handb. Laubholzk. 2: 587 & 596. 1911; Kammerer, Bull. Pop. Inform. Morton Arb. 5: 50. 1930; Stapf, Curtis Bot. Mag. 154: pl. 9219. 1930; P'ei, Mem. Sci. Soc. China 1 (3): [Verbenac. China] pl. 30. 1932; Makins, Ident. Trees Shrubs, ed. 1, 62, fig. 50 F (1936) and ed. 2, 62, fig. 50 F. 1948; Turrill, Curtis Bot. Mag. 166: pl. 75. 1949; Iljin, Acad. Sci. Bot. Inst. Dept. Repr. Mat. Hist. Fl. Veg. USSR 3: 215, fig. 44. 1958.

A semi-hardy, small, ornamental bush, subshrub, or bushy shrub, slightly to very aromatic, thriving best in regions of alternating severe climates, prostrate or suberect to erect, 0.3--1 m. tall,

basally woody; branches long and slender, the young shoots erect, gray-downy throughout with minute, closely appressed, fine, more or less curly, white hair, the floriferous portions usually to about 35 cm. long; leaves decussate-opposite, short-petiolate, reduced in size upwards; petioles slender, to 1 cm. long; leaf-blades linear to linear-lanceolate, rarely lanceolate, basically green or yellow-green to grayish-green (especially so above), 1.5--4.5 cm. long, 3--10 mm. wide, apically acute, marginally normally entire or subentire, basally acutely attenuate into the petiole, usually dark and dull grayish-green above, almost white beneath, often silvery- or gray-downy on both surfaces (but especially so beneath) with close very minute puberulence; inflorescence usually solitary in the uppermost leaf-axils, slender-stalked; peduncles very slender, about 1 cm. long; cymes in up to 5 somewhat distant pairs, 3--4 cm. long, 3--9- [mostly up to 6-] flowered, the flowers 1.2--1.5 cm. long, "shiny", fragrant; pedicels 3--7 mm. long; calyx campanulate, often pale-blue, 5-lobed or 5-cleft to the middle, the teeth or lobes lanceolate to linear-lanceolate or awl-shaped, subequal; corolla bilabiate, about 1.5 cm. long, mostly blue, sometimes lavender-blue or violet, the tube cylindric, 6--7 mm. long, the throat closed within by villous or puberulent hairs, the upper lip 4-lobed with small, ovate, about 5 mm. long, apically acute, wavy, or obscurely toothed lobes, the lower lip 1-lobed, much larger than the others, 1 cm. long, spoon-shaped, oblique, basally clawed, and marginally deeply and elegantly fimbriate-fringed, the fringes often pale or white; stamens didynamous, unequally paired, long-exserted about 6 mm. beyond the corolla during anthesis; filaments straight, blue or pale-blue, about 1 cm. long; anthers very small, nigrescent, the two thecae parallel; pollen blue; style and stigma long-exserted, equaling the stamens; ovary obscurely 4-lobed or 4-angled; fruiting-calyx 8--9 mm. long, inflated, the lobes more or less ampliate and often triangular; capsule much compressed, suborbicular, about 7 mm. long and wide, externally smooth; nutlets flat, narrowly winged.

This species, the type species of the genus, is based on an unnumbered collection made by Alexander Andrejewitsch von Bunge somewhere in Chinese Mongolia, probably deposited in the Leningrad herbarium. The species appears to be native only in Mongolia and northern China, but occurs also in rather limited cultivation. Its scarcity in cultivation is chiefly because of its requirement of extremely cold winters and extremely hot summers. In its native haunts collectors have encountered it on mountainsides, sandy slopes, and exposed, dry, clay cliffs, as well as in the "boulder wash of open canyons". Russian writers include it among so-called desert dwellers. It has been collected at 1800--2600 m. altitudes, flowering from June to September (mostly in August and September) -- in New Zealand gardens also in March -- and in fruit in August and September.

Encke (1960) asserts that the plant never grows over 1 m. tall and that it is not as handsome in cultivation as the more commonly grown C. incana (Thunb.) Miq. and its varieties and hybrids. Hoag

(1965) says that it is "less shapely and with duller flowers than the hybrid", C. Xclandonensis Simmonds, between it and C. incana. Ching found it to be "quite common on exposed, dry, clay cliffs" in Kansu, China. In Shansi it is said to be employed medicinally by the native inhabitants.

The only recorded vernacular and common names for C. mongholica are "caryoptéride de la Mongolie", "Mongolia bluebeard", and "wash bash". It was apparently first introduced into cultivation, according to Bean (1956), in France in 1844, where it soon died out, to be reintroduced, according to Encke (1960), in 1866.

Most authors describe the corollas as "blue" and they are so described also on Ching 1086, Ngan 82, and Roerich Exped. 453, while on Trippner 203 they are said to have been "sky-blue", on Sykes 198/64 "mauve-blue", on Kucyniak 1536-40 "blue or purple", and on Roerich Exped. 404, 491, & 612 "lilac".

Bean (1970) tells us that "It flowered in France as long ago as 1844 and has been re-introduced on several occasions since then. This handsome species does not appear to be long-lived in this country [England]. In its native habitat it experiences very cold winters but these are followed by summers much hotter than ours and, like many species from such regions, it does not take kindly to our softer, more equable climate. This, at any rate, would seem to be the reason why it has proved a failure in gardens where many genuinely tender plants thrive. It grew well for a time at Rowallane in Co. Down.....but the plant died and the Hon. Mrs. O'Neil tells us that it must be many years since the species has been cultivated there. It has been grown successfully in the Cambridge Botanic Garden, however, and it is, perhaps, in that part of England and in E. Anglia, that it is likely to succeed best. This is true of many plants from more arid and more extreme climates than ours."

Kammerer (1930) reports that "Though the upper surfaces of the leaves are dusty green they have a sufficient silvery cast underneath to justify their inclusion in the gray foliage group [of cultivated shrubs]. The conspicuous violet or lavender blue flowers, borne in dense axillary cymes at a time when blossom is rather scarce in the garden, are really the most noteworthy feature of this Caryopteris. Being native of a somewhat less severe climate, its branches usually kill back to the ground each winter with us [in Illinois, U.S.A.]. It can be depended upon to send up new flowering shoots the following spring, however. For best results plant it in a well drained soil where it has full exposure to the sun."

Stapf (1930) notes that the species is "affinis C. Mastacantho, Schauer, sed foliis integris, inflorescentia laxa, filamentis longis, fructo maiore compresso plane distincta; C. Forrestii, Diels, quae etiam foliis integris gaudet, habitu magis fruticoso, foliis lineari-oblongis obtusis, cymis contractis, floribus minoribus, filamentis multo brevioribus differt."

P'ei (1932) cites Ngan 12 from Shansi and Chaney 325 & 625 and David 2858 from Mongolia.

Junell (1934) discusses the gynoecium morphology of this species on the basis of Ikonnikov-Galitzky 366 in the Stockholm herbarium. Erdtman (1945) describes its pollen morphology on the basis of a Tatarinov collection in the same herbarium. He finds the pollen grains to be tricolpate, subprolate, and apparently externally smooth. Bocquillon (1862) illustrates the floral anatomy on the basis of a Bunge (perhaps the type) collection in the Paris herbarium and specimens in that same herbarium from plants cultivated in the Paris and Orleans botanic gardens.

Walpers (1845) refers to the "paniculis axillaribus oppositis vel alternis et terminalibus" and gives the distribution of the species as "in rupibus apricis montium Mongholicae fere totius, exceptis regionibus maxime borealibus et maxime australibus". Dietrich (1843) also refers to alternate or opposite, axillary and terminal "panicles".

Walker (1941) cites Shan 1086, describing the plant as 30 cm. tall, the flowers fragrant, and the corollas "shining blue", averring that the species is fairly common on exposed, dry, clay cliffs.

Gibbs (1974) found syringin absent from the plant's stems and the HCl/methanol test negative.

Grubov (1955) cites the Maximowicz (1877) reference to C. mongholica as "1876" and lists the species as though from Russian (Outer) Mongolia, but seems to cite only collections made in Inner (Chinese) Mongolia and apparently only regards it as possible also occurring in the USSR.

Forbes & Hemsley (1890) cite only Bunge s.n. from "North China" -- the type collection -- and Przewalsky s.n. from Kansu, commenting that the species is "common in southeastern Mongolia". Franchet (1884) cites David 2858 from Mongolia and says that the plant is an "Arbuste très aromatique et qui abonde sur les coteaux pierreux de tout l'Oulachen". Maximowicz (1886) cites unnumbered collections of Bunge, David, Kirilow, Przewalsky, and Tatarinov from Inner Mongolia.

A very interesting letter from Robert A. DeFilipps of the Endangered Species Project of the Department of Botany at the United Syates National Museum of Natural History, Washington, dated June 10, 1977, states that "The Smithsonian Institution is cooperating with the U. S. Fish and Wildlife Service in trying to assess the status of plants included in the appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973). We would be most grateful if you could provide us with any information on Caryopteris mongholica that would help us to understand its abundance in nature, the effect that international trade might have on its survival as a species, and the desirability of regulating its trade. Our present knowledge is unfortunately limited to the brief mention of it in your Fifth Summary of the Verbenaceae. Specifically we would like to have any information on the following: How abundant is Caryopteris mongholica? Is it either endangered or threatened? How extensively is it collected from the wild? What is it used for? To what extent is it in international trade? To what extent is it used locally?

Is it cultivated for commercial use? What percentage of the plants in trade, if any, are from the wild vs. from cultivated material? In your opinion, should trade in C. mongholica require international protection in the form of import and export permits?" My response, in part, was that "In general, I would almost always favor the prohibition of live material of taxa like this in commerce, except under special dispensation to botanical gardens where attempts would be made to preserve the species (NOT with any hybridization or other manipulation of its natural characters) and propagate it. I would so recommend the present species."

According to Bailey (1935) the species was at that time offered in the horticultural trade by Sanford, D. H. Snowberger (Fayette, Idaho), LeMac, W. A. Toole (Baraboo, Wisconsin), Preece & Nicholls (Victoria, British Columbia), Floraire, Kaye, and Knap Hill nurseries.

Wangerin & Krause (1941) mistakenly cite the Stapf (1930) reference in Curtis Botanical Magazine as "1931". Similarly, the Walker (1941) reference is sometimes mis-dated as "1942" in bibliographies. P'ei (1932) cites the Franchet (1883) reference as "6 (2): 111. 1884" and the Stapf [as "Stapt"] 1930 reference as "t. 2916. 1828".

It is also worth noting here that Caryopteris glossocarya Bocq. is sometimes included in the synonymy of C. mongholica, but it seems, rather, to belong to that of Glossocarya mollis Wall.

Material of Caryopteris mongholica has been misidentified and distributed in some herbaria as Dracocephalum foetidum Bunge and as Lithospermum sp. On the other hand, the Brumbach 7273, distributed as typical C. mongholica, actually represents its var. serrata Maxim.

Citations: CHINA: Inner Mongolia: Chaney 325 (Ca--295317, N, W--1425021), 625 (Ca--295602); Collector undetermined 380 (N); David 2858 (W--293048, W--2497331); J. Eriksson 75 (W--1655072), 520 (W--1655313); Herb. Acad. Petrop. 117 (Mu--1122); Hsia 2953 (N); Roerich Exped. 404 (W--1658234), 453 (W--1658263), 491 (W--1658280), 612 (W--1658343); Ikonnikov-Galitzky 180 (Ca--475079), 366 (Ca--475078, S); Kraschenninikov 81 (Ca--598133); Potanin s.n. [Ordos, 1884] (Br, F--photo, Ld--photo, N--photo, Si--photo), s.n. [Changai, 1886] (Br, S); Przewalsky s.n. [Mont. Muniula, 1871] (Mu--1714); Tatarinow s.n. [Mongolia chinensis] (S); Zama & Kinov s.n. [Lebedev 136a] (N). Kansu: Ching 1086 (W--1246074); Trippner 203 (Mu). Shansi: Ngan 12 (Ca--270486), 82 (Ca--270427). CULTIVATED: Belgium: Lejeune s.n. [1850] (Ba); Martens s.n. [h. b. lov. 1845] (Br, Br). England: Moldenke & Moldenke 9266 (N). Germany: Herb. Kummer s.n. [hort. Monac. VIII.1856] (Mu--1286); Herb. Zuccarini s.n. (Mu--1120); Schwaegrichen s.n. [hort. Lipsiensis] (Mu--1287). New Zealand: Sykes 198/64 (Nz--149643). Quebec: Kucyniak 1536-40 [August 10, 1942] (Bz, Mg), 1536-40 [August 12, 1942] (Ba, Mg). MOUNTED ILLUSTRATIONS: Carr., Rév. Hort. 44: [450]. 1872 (Ld); P'ei, Mem. Sci. Soc. China 1 (3):

pl. 30. 1932 (Ld).

CARYOPTERIS MONGHOLICA var. SERRATA Maxim., Bull. Acad. Imp. Sci. St.-Pétersb. 31: 88. 1886.

Bibliography: Maxim., Bull. Acad. Imp. Sci. St.-Pétersb. 31: 88. 1886; Maxim., Mél. Biol. Acad. Sci. St.-Pétersb. 12: 524. 1886; Bean, Trees Shrubs Hardy Brit. Isls., ed. 7, 1: 367 (1950) and ed. 8, 1: 519. 1970; Mold., Phytologia 31: 391. 1975; Mold., Phytol. Mem. 2: 346 & 529. 1980; Mold., Phytologia 52: 434. 1983.

This variety differs from the typical form of the species in its sparsely and irregularly dentate leaf-blades.

The variety is based on an unnumbered Przewalsky collection from "Chinae prov. Kansu ad Hoangho super., alt. 7 mill. ped. supra mare, jugo Nan-shan inter Mongoliam et Tsaidam finitimo".

As pointed out by Bean (1970), both this variety and the typical C. mongholica Maxim. "are readily distinguished by the narrowness of the leaves".

The collection cited below, distributed as typical C. mongholica, exhibits some entire and some serrate leaves and I am assuming that it represents the present variety. It was grown in a border planting, is described as having been a shrub 1.5 m. tall, and is said to have had "violet-blue" corollas.

Citations: CULTIVATED: Pennsylvania: Brumbach 7273 (Ba).

CARYOPTERIS NEPALENSIS Mold., Phytologia 7: 77--78. 1959.

Bibliography: Mold., Phytologia 7: 77--78. 1959; Mold., Résumé Suppl. 1: 11. 1959; Mold., Biol. Abstr. 35: 1688. 1960; Hocking, Excerpt. Bot. A.4: 592. 1962; G. Taylor, Ind. Kew. Suppl. 13: 25. 1966; Mold., Fifth Summ. 1: 269 (1971) and 2: 856. 1971; Anon., Biol. Abstr. 56 (10): B.A.S.I.C. S.42. 1973; Mold., Biol. Abstr. 56: 5366. 1973; Mold., Phytologia 26: 177. 1973; Hocking, Excerpt. Bot. A.23: 293. 1974; Mold., Phytol. Mem. 2: 257, 346, & 529. 1980; Brenan, Ind. Kew. Suppl. 16: 58. 1981; Mold., Phytologia 52: 434. 1983.

A loosely growing shrub, 2--4 m. tall; branches and branchlets apparently wide-spreading, slender, acutely tetragonal, sparsely and minutely puberulent; nodes annulate; principal internodes 4--10 cm. long; leaves decussate-opposite; petioles short, 3--14 mm. long, rather densely short-pubescent or puberulent; leaf-blades rather uniformly green on both surfaces or somewhat lighter beneath, beautifully ovate, 4--15 cm. long, 2.8--10.5 cm. wide, apically rather long-acuminate, marginally uniformly serrate except on the acumination and base, basally varying from rounded to truncate or subcordate, very sparsely and minutely puberulent on both surfaces, slightly scabridous and sometimes rugose above, those in the terminal inflorescence smallest; midrib slender, flat above, prominulent beneath; secondaries 4--6 per side, beautifully arcuate-ascending, flat above, prominulent beneath, not plainly anastomosing; tertiaries numerous, subparallel, uniting the secondaries with the midrib and issuing at approximately right angles to them, rather obscure above, subprominulous beneath; inflorescence massive, terminal and thyrsoid, also loosely cymose

in the uppermost leaf-axils, the axillary cymes long-pedunculate, divaricate, very loosely wide-spreading, rather many-flowered, to 12 cm. long and 9 cm. wide, simple or compound and foliose, the cyme-branches very slender, acutely tetragonal, densely incanous-puberulent; peduncles slender, acutely tetragonal, 4--8 cm. long; terminal thyrse massive, often to 50 cm. long and 25 cm. wide, very loosely many-flowered, often foliose, the rachis, sympodia, and cyme-branches sharply tetragonal, more or less densely white-puberulent; bractlets numerous, broadly linear or very narrowly elliptic, 2--7 mm. long, to 1 mm. wide, densely puberulent, a pair at every node of the inflorescence to the ultimate flowers, conspicuous on the cyme-branches; pedicels slender, 1--3 mm. long, densely white-puberulent; calyx campanulate, about 3 mm. long and wide, densely white-puberulent, the rim 5-toothed or 5-lobed, the teeth spreading, ovate, 1--1.5 mm. long, apically acute; corolla zygomorphic, pink, its tube slender, about 10 mm. long, externally white-puberulent, the limb about 15 mm. wide, white-puberulent beneath; stamens long-exserted, the filaments and anthers pink; fruiting-calyx herbaceous, campanulate, rather closely appressed to the fruit, to 5 mm. long and wide, externally rather densely whitish-puberulent with antrorsely appressed hairs, the rim very plainly 3-lobed with broadly ovate and apically subacuminate lobes or teeth; fruit capsular, subglobose, 4--5 mm. long and wide, externally minutely puberulent, conspicuously venose.

This species is based on Polunin, Sykes, & Williams 537 from among scrub thickets at the edge of cultivation at Jajakot, Pokhra, Nepal, at an altitude of 3500 feet, collected on August 21, 1952, and deposited in the herbarium of the British Museum (Natural History) in London. It is obviously related to C. chosenensis Mold. of China, Korea, and Japan, and will have to go with it into the segregated genus if and when such a genus is established. Certainly these two species do not seem to belong naturally in the genus Caryopteris.

Collectors have encountered C. nepalensis on hillsides, among other shrubs on steep banks, and in scrub thickets, at 3000--5500 feet altitude, in anthesis in August and October. The corollas are said to have been "pink" on Stainton, Sykes, & Williams 7593 & 8924 and "the limb RHS Rhodamine Purple 29/2, the remainder 29/3" on their 8924. The Peterson collection, cited below, was taken from material grown in Pennsylvania from seed collected in Nepal by Creech & DeVos in 1963.

Material of C. nepalensis has been misidentified and distributed in some herbaria as Clerodendrum sp.

Citations: NEPAL: Polunin, Sykes, & Williams 527 (Bm--type, Ld--photo of type, N--isotype), 5723 (Bm); Stainton, Sykes, & Williams 4149 (Bm, N), 5762 (Bm, N), 7593 (Bm, Ld, N), 8924 (Bm, N). CULTIVATED: Pennsylvania: J. W. Peterson 11 (Ba).

CARYOPTERIS NEPALENSIS var. PARVIFOLIA Mold., Phytologia 26: 177. 1973.

Bibliography: Anon., Biol. Abstr. 56 (10): B.A.S.I.C. S.42.

1973; Mold., Biol. Abstr. 56: 5366. 1973; Mold., Phytologia 26: 177. 1973; Hocking, Excerpt. Bot. A.23: 293. 1974; Mold., Phytol. Mem. 2: 257, 346, & 529. 1980; Brenan, Ind. Kew. Suppl. 16: 58. 1981; Mold., Phytologia 52: 434. 1983.

This variety differs from the typical form of the species in having its mature leaves only 4--7 cm. long and 3.2--4.5 cm. wide.

The variety is based on Gillis 11406 from cultivated material at the United States Department of Agriculture Plant Introduction Station at Miami, Florida, collected on July 14, 1972, and deposited in the Lundell Herbarium at the University of Texas, Austin. The type plant was grown from seed collected along a path in Raku, Nepal, at an altitude of 5000 feet, in 1963 (Pl. Introd. 285370, M-20161). Thus far the variety is known (to me) only from the original collection.

Citations: CULTIVATED: Florida: Gillis 11406 (Ld--type).

CARYOPTERIS NEPETAEFOLIA (Benth.) Maxim., Bull. Acad. Imp. Sci. St.-Pétersb. 23: 390. 1877.

Synonymy: ?Teucrium nepetaefolium Benth. in A. DC., Prodr. 12: 580. 1848. Caryopteris nepetaefolia Benth. ex Maxim., Bull. Acad. Imp. Sci. St.-Pétersb. 23: 390, in syn. 1877. Cariopteris nepetaefolia Maxim. ex Franch., Nouv. Arch. Mus. Paris, ser. 2, 6: 111. 1883. Caryopteris nepetaefolia Maxim. apud Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 447. 1893. Caryopteris nepetifolia Maxim. ex Matsum., Icon. Pl. Koisikav. 1: pl. 50. 1912. Caryopteris nepatifolia Maxim. ex Mold., Phytol. Mem. 2: 379, in syn. 1980.

Bibliography: Benth. in A. DC., Prodr. 12: 580. 1848; Hemsl., Journ. Bot. 14 [ser. 2, 5]: 208. 1876; Maxim., Bull. Acad. Imp. Sci. St.-Pétersb. 23: 390. 1877; Maxim., Mél. Biol. Acad. Sci. St.-Pétersb. 9: 830. 1877; S. Moore, Journ. Bot. 16 [ser. 2, 7]: 138. 1878; Maxim., Bull. Soc. Nat. Mosc. 54: 40. 1879; Franch., Nouv. Arch. Mus. Hist. Nat. Paris, ser. 2, 6: 111. 1883; Franch., Pl. David., inp. 1, 1: 231. 1884; Maxim., Bull. Acad. Imp. Sci. St.-Pétersb. 31: 76 & 88. 1886; Maxim., Mél. Biol. Acad. Sci. St.-Pétersb. 12: 524. 1886; Forbes & Hemsl., Journ. Linn. Soc. Lond. Bot. 26 [Ind. Fl. Sin. 2]: 264. 1890; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 477. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 178. 1895; Matsum., Icon. Pl. Koisikav. 1: pl. 50. 1912; Stapf, Ind. Lond. 2: 82. 1930; P'ei, Mem. Sci. Soc. China 1 (3): [Verbenac. China] 163, 164, & 173--174. 1932; Hand.-Mazz., Act. Hort. Gotob. 9: 68--69. 1934; Mold., Suppl. List Inv. Names 2. 1941; Mold., Alph. List Inv. Names 12. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 56 & 87. 1942; Erdtman, Svensk Bot. Tidsk. 39: 282--284, fig. 5. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 447. 1946; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 131 & 178. 1949; Iljin, Acad. Sci. Bot. Inst. Dept. Repr. Mat. Hist. Fl. Veg. USSR 3: 216. 1958; Mold., Résumé 168, 249, 250, 354, 418, & 445. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 447. 1960; Mold., Fifth Summ. 1: 287, 422, & 423 (1971) and 2: 641, 773, & 856. 1971. [to be continued]